Synthesis, structure and luminescence of novel lanthanide containing coordination polymers

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In this work, several new lanthanide coordination polymers were synthesized and characterized through X-ray single crystal and powder diffraction and luminescence spectroscopy.

Four new terephthalic acid linked coordination polymers were synthesized, containing praseodymium, neodymium, samarium and europium.[1] The compounds that did not yield crystals suitable for single crystal analysis were Rietveld-refined based on the powder diffraction patterns. In this series of compounds, the lanthanide contraction was perceived through a proportionate distortion of the crystal lattice. The europium-containing coordination polymer exhibited bright luminescence in the visible (red) region of the spectrum.

A neodymium homologue of 2-5-pyridinedicarboxylic acid-based coordination polymers was also synthesized and characterized.[2] The compound showed typical Nd^{3+} near infrared luminescence.

[1] X. Guo, G. Zhu, *Inorg. Chem.*, **2006**, *45*, 2581-2587.
[2] initiaal? Huang, *J. Solid State Chem.*, **2008**, *181*, 1731-1737.